

09/535391

STRING SWITCHING APPARATUS AND ASSOCIATED METHOD

ABSTRACT OF THE DISCLOSURE

An improved string switching apparatus and method is provided for

5 controllably connecting a plurality of solar array strings to an output power bus. The string switching apparatus can include a plurality of field effect transistors electrically connected in parallel with respective solar array strings and a digital controller for controllably switching the field effect transistors between on and off states to thereby control the power level of the output power bus. The field effect transistors can be

10 switched between an on state in which the output of the respective solar array string is shunted and an off state in which the output of the respective solar array string is delivered to the output power bus. In addition to merely providing power to an output power bus, the string switching apparatus and method can controllably connect the plurality of solar array strings to either an output power bus or an auxiliary power bus, such as a battery charging power bus. In addition to the plurality of shunt regulators, the string switching apparatus can include a plurality of coupling switches electrically connected between respective solar array strings and one of the output power bus and the auxiliary power bus for controllably directing the power to a selected one of the power buses.

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CLT01/4402868v1